

Resourceful Cities

Berlin (Germany), 29---31 August 2013

Abstract space: the impact of the rational paradigm of local and state plans on informal settlements. Mercedes: a case study from Western Uruguay.

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**Paper presented at the International RC21 Conference 2013
Session: World of Cities, 'Planet of Slums'? Informal Settlements and Public Policies**

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Abstract

Today, rural areas of Mercedes/Soriano in western Uruguay are facing changes related to rural-urban migration and the development of industrial agriculture. As a result of rural migration, economic crises, labor issues, and other critical problems, the outskirts of Mercedes began to be appropriated by squatters. In the last few years different strategic plans and policies carried out by governments at multiple levels have attempted to regularize and relocate some of the informal settlements. Using Lefebvre's (1991) theory of space, this study explores how plans under the rational paradigm have transformed the spatial practice of informal settlements in Mercedes, Uruguay. Rationality embodies the contradictions between planning theory or research and current practice. Secondary data and resulting analytical maps are utilized to understand recent changes produced in the urban-rural space of Mercedes. Regional and local plans and policies are discussed through informal conversations with staff from local and national governments. Results show that interactions between plans, policies, and social mobility have transformed public spaces and existing neighborhoods, emphasizing the social-spatial fragmentation between the inner city and the periphery and/or informal settlements. Recommendations center on how governmental institutions can develop new policies and regulations to improve and change critical aspects of Mercedes' growth.

Introduction

Rural areas of Mercedes/Soriano in western Uruguay¹, which traditionally depended on agriculture, are currently facing socio-spatial transformations related to rural-urban migration and the development of industrial agriculture. As a result of rural migration, economic crises, rural-urban labor issues, and other critical problems, the periphery of Mercedes began to be appropriated by squatters. During the '80, these spaces were transformed into informal settlements, shaping new and existing neighborhoods in the periphery of Mercedes. In the last years different strategic plans and policies carried out by governments at multiple levels have attempted to regularize and relocate some of the informal settlements. This study explores how plans under the rational paradigm have transformed the spatial practice of informal settlements in Mercedes, Uruguay.

Close to ninety percent of the Uruguayan population lives in cities and towns. The population of the Departamento of Soriano is around 84,563. The population of Mercedes, 42,032, comprises almost half of this² (see figure 1). However, the urban populations are economically dependent on the rural areas. The economic and productive activities are related to forestry and the food industry, including cattle, dairy, horticulture, wheat, sunflower, and more recently, soybeans. The agriculture industry is therefore one of the



Figure 1- Uruguay and Soriano. Map by the author based on satellite image.

¹ Uruguay is subdivided into nineteen administrative-political regions called Departamentos, one of which is Soriano. Each Departamento has its own capital city; in 1857 Mercedes became the capital of the Departamento of Soriano. The governments of the Departamentos are called Intendencias Municipales. The Intendencias Municipales are in charge of the rural and urban areas within the Departamentos, and the headquarters of the Intendencias are located in the capitals of the Departamentos

² Data obtained from the 2004 Population Census, INE, National Institute of Statistics, Uruguay.

main sources of jobs in both the cities and towns of this Departamento.

The city of Mercedes is comprised mainly of four different geographical areas, and different socioeconomic statuses can be observed in each. These areas include the center, the *rambla* or riverside boulevard, traditional neighborhoods, and the periphery (see figure 2). The center is the historical area and is used in a variety of ways, including for residential units, commercial buildings, and governmental and financial institutions. The residents in the center are comprised predominantly of a medium socioeconomic class. The *rambla* is the neighborhood located on the Negro riverside, and the activities in this area are basically residential and recreational involving the river. The *rambla* is occupied by people from the highest economic class of the city. The traditional neighborhoods form the urban fabric of Mercedes and are inhabited by the working class. Corporations and facilities related to industrial agriculture activities are located in the peripheries of the city next to the informal settlements.

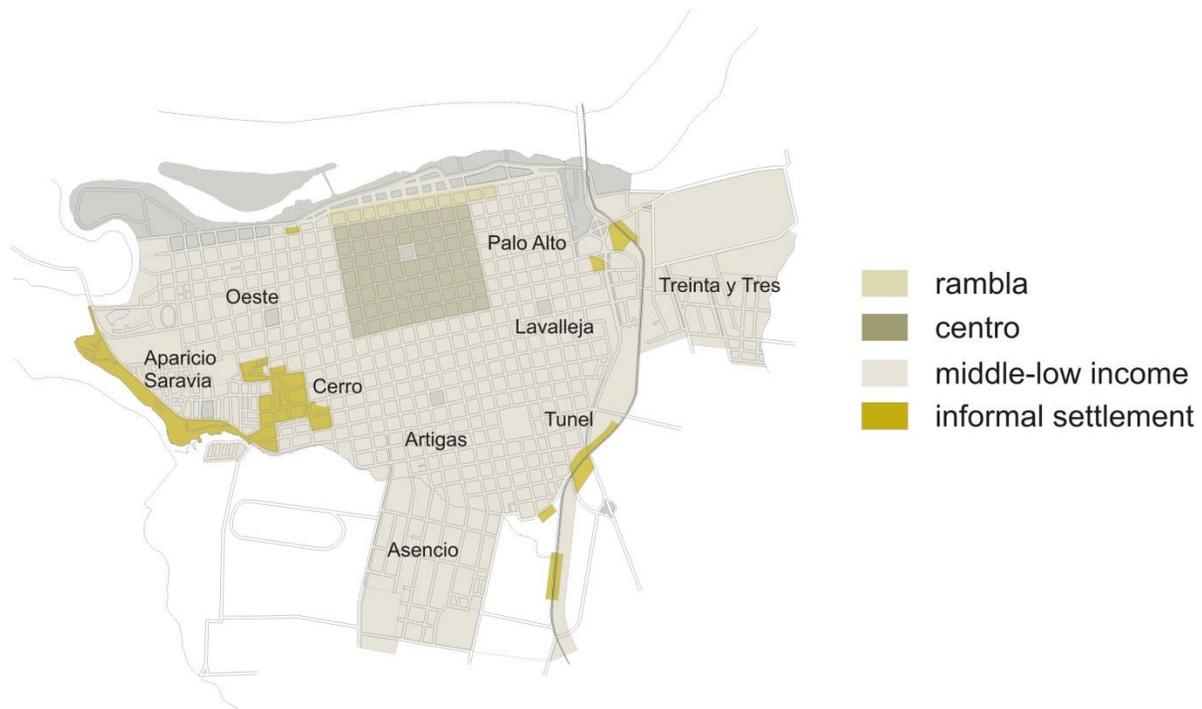


Figure 2- Neighborhoods of Mercedes. Map drawn by the author.

According to the Census of the National Institute of Statistics (INE)³, from 1996 to 2004, twenty-six percent of the rural population of Soriano moved to urban areas. Around fifty percent of the rural labor force lives in urban areas in small towns and cities including Mercedes and Dolores, among others. The formation of the first informal settlements in Mercedes in the 1980s was a consequence of rural migration brought about by the financial crisis, among other critical factors. The first squatters migrated into the city from rural areas seeking job opportunities. Those who could not find work or became unemployed could not afford places to live in the city, and ultimately many ended up occupying public land along the banks of the Daga Stream which floods at least once a year. The Daga Stream is in the west area of Mercedes and flows into the Negro River.

The landscape of Mercedes has undergone deep transformations that have affected its spatial configuration, such as uneven economic growth within the city emphasizing the spatial gap between the privileged and unprivileged, and changes in land uses. As a result of those changes informal settlements have expanded in the periphery of Mercedes, reinforcing socio-economic and spatial segregation.

Research Methods

This research focuses on the spatial transformation of Mercedes that has been produced by local and state plans under the rational paradigm. This phenomenon is analyzed through the concepts of the representation of space and the spatial practice of Lefebvre's spatial triad (1991). This study is based on secondary data obtained from the Agricultural Census, Population Census, online press and websites, maps, policies, and other sources. The discourse is informed with field notes from informal conversations about plans and policies with staff of the local government Intendencia Municipal de Soriano (IMS) and the Ministerio de Transporte y Obras Publicas (MTOP), or Ministry of Transportation.

³ Instituto Nacional de Estadística (INE) stands for National Institute of Statistics

The representation of space is conceptualized space; it implies an abstraction of space which is constructed by space scientists and technocrats, planners, urbanists, and engineers, among others (Lefebvre, 1991: 38). For this section of analysis, data was gathered from historical and contemporary maps, satellite images from Google Earth, the current strategic plan of Mercedes, and past and current policies related to land use and development.

Spatial practice refers to the physical manifestation of space. A society's spatial practices determine that society's space. Spatial practice produces and appropriates the space. Thus, in a capitalist society, spatial practices are materialized through routes and networks that connect places for work, living, and leisure (Lefebvre, 1991: 38). Spatial practices of informal settlements are analyzed through data gathered from the 2002 Agricultural Census, the Population Census from 1996 and 2004, and the Relocation and Regularization Program of informal settlements in Mercedes. Additionally, local and national media, online-newspapers, websites of the agriculture industries located in Mercedes and Soriano, and several bibliographic resources were studied.

Finally, the findings of this research are represented through maps on satellite images that illustrate the social construction of space and spatial practices. Additionally, the maps attempt to decipher what Lefebvre calls the society's "secret" space under capitalist practices (Lefebvre, 1991: 38).

Abstract Space: Mercedes Plan, the rational paradigm

Abstract space is the result of the social and economic relations of the modes of production and the way these relations formulate knowledge, signs, and codes (Lefebvre, 1991). Maps and policies are some of the tools that establish the "order" that produces abstract space.⁴ According to a study done by Jacob and Dahl (2006: 273-274): "The power of maps resides in the new kind of visibility it provides for a very

⁴ In the traditional evolutionist model, geographical knowledge is represented by successive levels of coherence, architecture, normative value, and authority. Thus, thought and knowledge become a simplification of the complex reality, and the maps represent a "view of the world" of a specific epoch. Jacob, Christian and Edward H. Dahl. 2006. *The sovereign map : Theoretical approaches in cartography throughout history*. Chicago: University of Chicago Press.

familiar space, even if limited in extent. The maps share the prestige of glasses, filters, and microscopes: like all these optical mechanisms, it allows the invisible to be seen,” and in the maps the visible could become absent from discourse. The power of maps and policies depends on the ability to create reality by representing something or by ignoring it.⁵ Although at some degree policies are influenced by agencies, maps and policies produce and reproduce spatial and human relationships among power agencies, including top-down relationships between those who produce policies and those who are subjected to them.

From the planning perspective informal settlements are complex problems because of their complex nature, they are never solved and they are re-solved over the time. Traditionally the planning process was seen as problem-solution process where the professional was able to diagnose the problem and solve it. In the context of urban informality the planning practices need to be able to adapt and transform responding to to the contemporary conceptions of interacting open systems and to socio-spatial justice. The classic paradigm of science is not appropriate for responding to complexity and open systems. From the socio-spatial justice perspective, the key questions are related to the definition of the planning problem and the formulation of goals. Additionally, the most difficult things about a problem are to define the problem itself, and define the actions to pursue in order to get the valued outcomes (Rittel and Webber, 1973:155-169)

Pragmatic rationality is a form of reasoning that attempts to solve planning problems and foresee the future, and it is a linear process (Brooks, 2002). Rationality constitutes an abstraction and simplification of the real world in order to make reality more understandable and measurable. Thus, pragmatic rationality is a model of thinking which is in the realm of the representation of space (Lefebvre 1991) and is reproduced by scientists and planners.

Rationality embodies the contradictions between planning theory or research and current practice. Planning theorists have largely discredited the notion of planning as an

⁵ Maps represent concepts about the world; they are statements about the physical world. They imply a specific view of world and time, present, past, and future (the way the physical reality should be). Jacob, Christian. 1996. Toward a cultural history of cartography. *Imago Mundi* 48: 191-198.

exercise of rationality. However, today rationality is still the hegemonic paradigm in planning practice (Brooks, 2002). One of the main reasons for the perpetuation of the rationality paradigm is that it is the dominant planning practice within traditional governances, such as the government in Mercedes. Since rationality is linear and attempts to be apolitical and uncritical of context, it fits into the capitalist mode of the production of space.

The Comprehensive Rational Planning Model, also called the Strategic Plan, is a set of prescribed steps and goals within the rational paradigm. There are different variations of the Comprehensive Rational Planning Model, but all of them include the following steps: 1) establish the goals and visions that are likely to be achieved, 2) analyze all possible alternatives, 3) evaluate the positive and negative consequences of all the alternatives, 4) choose the alternative which is most suitable to the goals and visions, 5) implement the plan, and 6) evaluate the plan according to the goals and visions (Brooks, 2002). The Strategic Plan of Mercedes was created under the rational paradigm by a planning agency consisting of different governmental and non-governmental institutions. The governmental institutions involved were the local government, or IMS, and the Ministry of Housing, Land Management and Environment – National Direction of Land Management, or MVOTMA-DINOT⁶. The non-governmental organization that participates in the planning process is called Anacahuita and is defined as an environmental and social network. The professionals in the planning agency were mostly architects and community planners, as well as a lawyer, a social worker, and an agronomist. The plan remained within the planning agency during the creation and design process. The ability to influence policies and maps through the Strategic Plan of Mercedes demonstrates the top-down power relationship between the planning agencies and the common population, which in general is not part of the planning process.

Based in Mercedes, the local government of Soriano, or IMS, has carried out a comprehensive rational planning model called the “Plan de Desarrollo y Ordenamiento

⁶ Ministerio de Vivienda Ordenamiento Territorial y Medio Ambiente (MVOTMA) stands for the Ministry of Housing, Land Management and Environment. Direccion Nacional de Ordenamiento Territorial (DINOT) stands for National Direction of Land Management

Territorial Microregion de Mercedes,” or “Plan for Development and Land Management for the Region of Mercedes.” The plan is also related to other plans for three different micro-regions of Soriano (see figure 3). The micro-regions were defined accordingly with their community identity and economic activity:

...this idea of the three micro-regions is related to the traditional identity of each region...when you are closer to the Negro River and the San Salvador River, the production is more agricultural than that of southern Soriano, which was traditionally more cattle production. However, today if you drive on the secondary roads, you will see few cattle in the Departamento. Cattle production has decreased, so land that traditionally produced cattle is now agricultural land. In southern areas of Soriano where dairy farms were important, in recent years they have decreased, and production has shifted to soybeans, maize, barley, and sunflowers...The region of Mercedes is the principal grain storage area, but that is also increasing in the south... (Field notes from informal chats with Municipality staff, 2009) translated by author

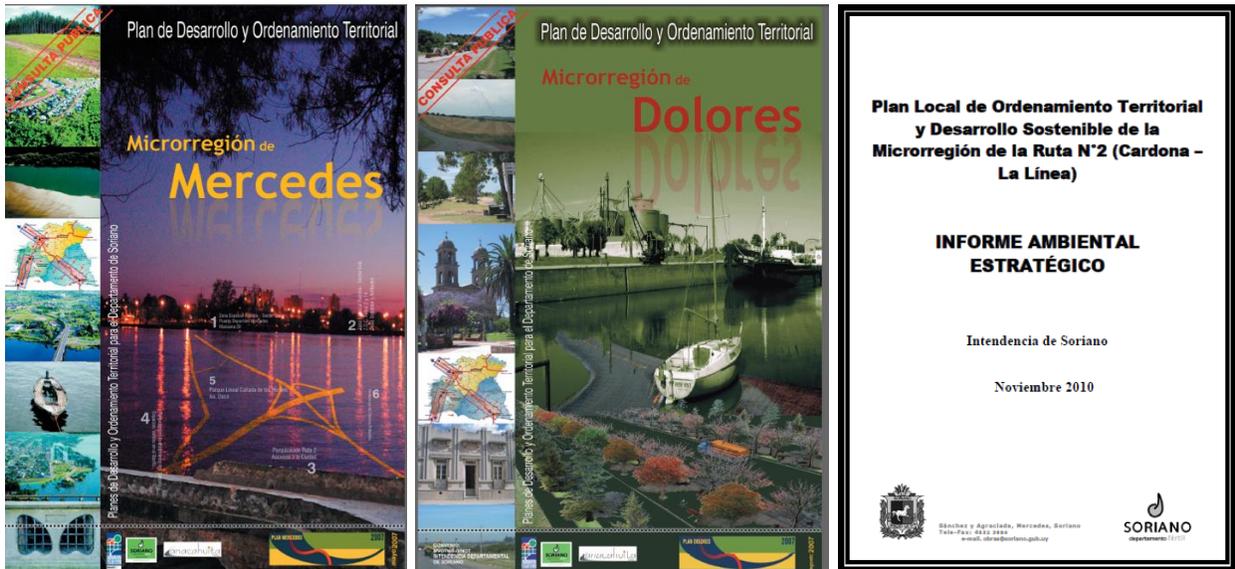


Figure 3- Plans for Development and Land Management for the Region of Mercedes, Dolores, and Cardona respectively.

During 2010 the plan of Mercedes was reviewed in order to meet the requirements of National Law 18308, known as the “Land Management and Sustainable Development” law. The Plan of Mercedes is described as a strategic document for public knowledge and discussion. It provides goals and visions for the city of Mercedes, and it presents strategic guidelines for achieving those goals. In addition, it explains in detail through maps and urban plans the way the strategic plan will be implemented.

The plan is focused on issues related to informal settlements, economic development, industrial development, and historic preservation. It provides land use and zoning ordinances for the urban core and the urban fringe of Mercedes.

The Strategic Plan of Mercedes, like most of the strategic plans, is based on analysis of strengths, weaknesses, opportunities, and threats, known as a SWOT analysis for short. The methodology of the planning process is described as participative because it incorporates the input of fifty interviews of residents (IMS and MVOTMA-DINOT, 2007). However, the majority of the population does not present knowledge about the plan. The access to the plan documents is obtained thorough Internet or by appointment with the city hall planner. Although Internet is broadly used in in Mercedes, it is not available for the entire population because of economic issues or the lack of access to information and to infrastructure.

Although the strategic plan described some kind of community participation during planning, the agency remained enclosed during the planning process. Though the plan describes its methodology as participative because it involved 180 stakeholders of Soriano (IMS and MVOTMA-DINOT, 2007: 10), community participation was low; less than 0.1 percent of the population was involved. Even though there were attempts to involve the community during the planning process, the comprehensive rational model does not allow community input because the decision-making is done by the planning agencies; they are the experts that foresee the visions and goals of the plan. In contrast, community input implies a collaborative planning process where planners and local citizens co-produce the data gathering and analysis with each needing the other to get the adequate information.

The Strategic Plan of Mercedes develops a set of action strategies for dealing with informal settlements. The “Habitat Program” is a program of prevention, integration, regularization, and relocation of the informal settlements. Thus, it provides the specific relocation of informal settlements within the urban fringe of Mercedes. For example, some parts of the settlement known as “Aparicio Saravia” are planned to be regularized, and other parts are designed to be relocated in the area surrounding the hippodrome and on the outskirts of the city. Like all of the strategic plans, it is an abstraction and

simplification of reality, so it does not consider the social and economic networks existing within the informal settlements. Social and economic networks such as waste classification are fundamental for the survival of the people in the settlements, and the population is at high risk when the networks are broken. The types of economic and social networks that make reality a complex phenomenon are not taken into consideration in any comprehensive rational model because the nature of the model is to simplify reality.

Additionally, in strategic planning the purpose of simplification is to focus on limited aspects of society in order to make them measurable, controllable, and malleable (Scott, 1998: 9-53). Although any type of planning is schematic, the comprehensive rational model does not succeed at representing the spatial practices of society; its main problem is that ignores the importance of community knowledge.

Rural-Urban informality

As a result of rural migration, economic crises, unemployment issues, and other problems, in the early Eighties the outskirts of Mercedes began to be appropriated by squatters, and rapidly this space was transformed into informal settlements. These informal settlements grew rapidly from 1982 to 2008 and they shaped new and existing neighborhoods in the periphery of Mercedes. According to the National Institute of Statistics, informal settlements are defined as:

...groups of ten dwellings or more, located on public or private land, built without any authorization from the landowner in informal conditions without following the land subdivision regulations. These groups of dwellings lack basic urban infrastructure and accessibility to social services. (INE, 2005-2006: 2) translated by author.

The precariousness of the quality of life experienced by the inhabitants of informal settlements implies they had little access to urban infrastructure such as water supply, electricity, sewage, and transportation. Additionally, those inhabitants have had to face issues regarding poor access to education and health services. Unsafe building structures and the use of inappropriate construction materials make the informal settlements places where human life is constantly in danger.

Socio-spatial segregation and urban poverty are associated with a poor quality of life, limited access to education and knowledge, and violence, among other issues. The growth of informal settlements, the lack of job opportunities, the physical danger workers face at their jobs, and extreme socio-economic differences among residents all imply the loss of cultural capital and citizenship identity, as well as social exclusion.

Currently there are two major informal settlements in Mercedes, the Aparicio Saravia and the Tunel, also called AFE⁷ because of its proximity to the railroad (see figure 4). The Aparicio Saravia started in 1982 in the west area of Mercedes along the Daca Stream and the Aparicio Saravia Road. That land was the property of the Intendencia Municipal de Soriano (see figure 5).

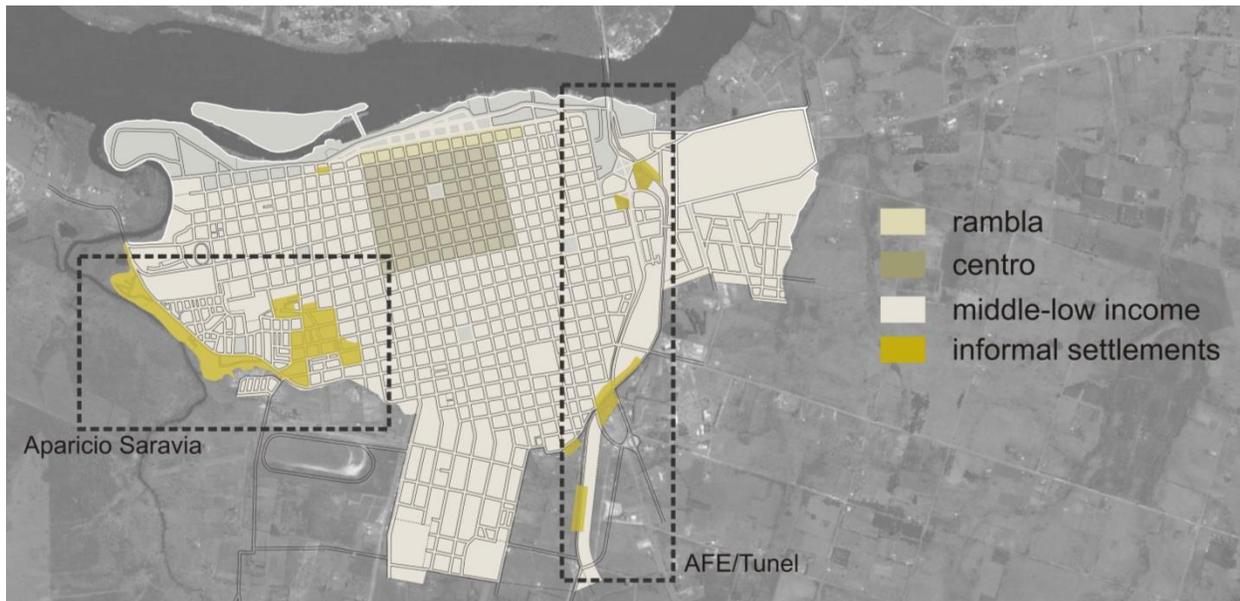


Figure 4 - Informal settlements between 2008 and 2010. Map by the author based on data from IMS, INE, and satellite image.

In the beginning, the first settlers of Aparicio Saravia were impoverished families from the rural areas of Soriano. The informal settlement grew mainly with the biological reproduction of new generations that were raised there, in addition to new settlers who

⁷ Administracion de Ferrocarriles del Estado (AFE) stands for National Railroad Administration

came from impoverished urban families from the low-income neighborhoods of Cerro and Artigas⁸ (see figure 6).

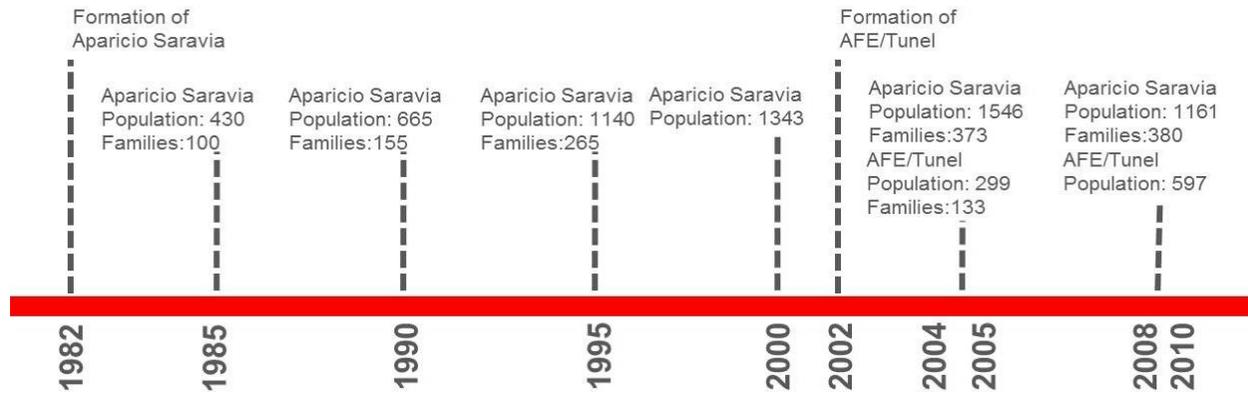


Figure 5 – Historical evolution of informal settlements. Elaborated by author based on data from IMS survey

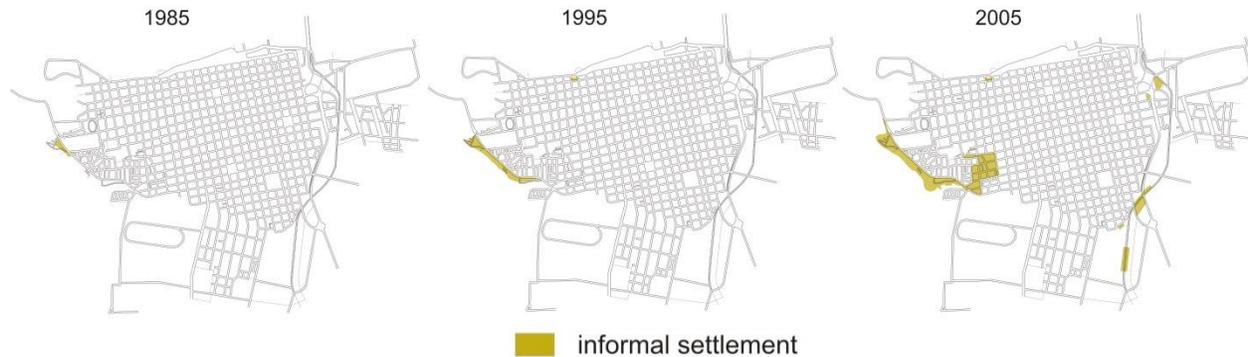


Figure 5 - Evolution of informal settlements in Mercedes. Maps by the author based on data from IMS, INE, and satellite image

The other important informal settlement is the Tunel, or AFE. Located along the railroad, this informal settlement started in April of 2002. Settlers vacating their previous residences were the main origin of the Tunel. According to the 2008 IMS Survey, the settlers declared that their main interest in the Tunel was the possibility that they would become eligible for social subsidized housing. The informal settlement then grew rapidly as a housing solution for the impoverished and low-income population.

⁸ Field notes from informal chats with staff of the local government of Soriano (IMS)

Most of the population in the informal settlements is either unemployed or employed temporarily. Around the thirty-five percent of the population has unstable jobs called *changas*. *Changas* are precarious jobs with high worker turnover, with jobs ranging from construction and rural employment to maids and trash pickers. In 2008, only four percent of the population of informal settlements declared rural employment as their main source of income (IMS, 2008).

Issues related to land availability and rent have contributed to the origin and growth of the informal settlements. The housing rent prices are expensive for the low-income population and there is a lack of land for building affordable housing.⁹

Relocation plan and its impact on social space

There have been two frustrated attempts to regularize the informal settlements, one in 1999 and another in 2004. Currently the local government, in coordination with the national government, is carrying out a program for the re-localization and regularization of the informal settlements (IMS and MVOTMA, 2009). The regularization and relocation plan provides public infrastructure for some areas to be regularized in the Aparacio Saravia. Because of flooding conditions, the informal dwellings next to the Daca Stream are unable to be regularized. Those informal dwellings, as well as the AFE informal settlement, are relocated to public subsidized housing in the south of the city.

In 2010, 263 families were relocated into subsidized social housing. The relocation plan provides a better quality of housing, but reinforces the spatial fragmentation between the informal settlers and the formal city. The new social housing is located along the periphery of the city, limiting the access to the urban infrastructure (see figure 7). The relocated families represent around sixty-five percent of the population included in the plan. The plan includes 1,758 people surveyed by the Intendencia in 2004, 2005, and 2008 (La Republica, 2010). However, not all the informal settlements' population was surveyed by the Intendencia and entered into the plan. According to the 2004 Population Census, at the time of the survey there were

⁹ Field notes from informal chats with staff of the local government of Soriano (IMS)

2,815 people living in the informal settlements, but only 1,758 were surveyed by the Intendencia, meaning 1,057 people did not participate in the re-localization and regularization program.



Figure 6- Relocation Plan, informal settlements, and the silo facilities in Mercedes in 2010. (Map by the author based on data from IMS, INE, satellite image and agro-business websites.)

The opportunity to achieve social justice and spatial equity resides within the informal settlements. For example, squatter communities have been empowered with the purpose of gaining legal rights over the land they inhabit, as well as access to affordable housing and urban infrastructure. In addition, since 2005 the national government has made great efforts to integrate the informal settlement population into the whole society. Some examples of this are the *Plan de Emergencia* and *Rutas de Salida*,¹⁰ which provided job opportunities to people living in poverty. Despite the efforts at local and national levels, the social-spatial gap between informal and formal city have not been reduced and, in cases like Mercedes Relocation Plan, the spatial fragmentation has been accentuated.

¹⁰ Social plans achieved by the National Government. *Plan de Emergencia* was the emergency plan that provided economic subsidies to people living in poverty conditions. *Rutas de Salidas* was the plan that followed the Plan de Emergencia; it provided job opportunities to people who were part of the previous plan by the association of NGOs with public administration jobs.

Conclusions

The formations of informal settlements are complex problems that usually planners have to deal with in developing countries. The community of Mercedes has been facing this complex transformation since last 3 decades. Although there have been some attempts to deal with informal settlement like the Strategic Plan of Mercedes and its Relocation Plan, because of its nature the plan has not been effective. The Rational Comprehensive Planning Model pursues to find a solution for complex problems with just a set of actions. In the Plan of Mercedes the problems were oversimplified and there was no public participation from the community. The Plan of Mercedes relocated informal settlement community in subsidized social housing in an isolated area in the outskirts of city reinforcing the social-spatial fragmentation between the informal community and the formal city.

The Strategic Plan of Mercedes is the first planning attempt to organize territory, and it provides guidelines for future development. It is a form of institutional spatial regulation. However, that form of abstraction carried by most of the bureaucratic institutions does not represent the complexity of social processes, but it impacts them. The logic behind the simplification is to make social processes more controlled, managed, and predictable. Hence, in that logic entails the risk of failure in institutional spatial regulations. Future policies and research need to evaluate the way policy and planning impact social processes from a complex perspective

The growth of informal settlements is a multilayered problem; the settlements reflect the lack of urban planning and lack of affordable land and housing, among other issues. Thus, the squatters have settled where public land is available in western Mercedes (Aparicio Saravia), on the local government's property and on the public administration's railroad land in eastern Mercedes (AFE- Tunel). Although, Mercedes Plan and the regularization and relocation program attempt to alleviate the growth of the Aparicio Saravia and Tunel-AFE settlements, legitimizing and regularizing the informal settlements will not prevent the formation of future settlements, nor will it ensure that the quality of life of the settlers will improve. Thus, the regularization and relocation plan is

an attempt to solve only the physical consequence of the problem but not the causes of the informal settlement, oversimplifying the complex nature of urban informality.

In order to produce space with social and spatial equity, planning strategies and policies should deal with the redistribution of infrastructure investments and ensure rights to the entire population of the city, especially the most spatially disadvantaged and vulnerable sectors of society. Informal settlements are starting to be recognized as productive players in the urban economy. Decentralization and democratization are essential for community participation and local-level decision-making (Chavez 2009). Urban plans and policies, that acknowledge with complexity and open systems, are essential for reinforcing socio-spatial equity and for recognizing and regulating informal livelihood strategies in rural and urban areas to guarantee sustainable development and more resilient communities.

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